SPACE TRANSPORTATION SYSTEM

SPACE SHUTTLE PAYLOAD FLIGHT ASSIGNMENTS

NOVEMBER 1985

NASA
National Aeronautics and Space Administration
CUSTOMER SERVICES DIVISION
WASHINGTON D.C.

SPACE TRANSPORTATION SYSTEM

SPACE SHUTTLE

PAYLOAD FLIGHT ASSIGNMENTS

NOVEMBER 1985 BASELINE

NOTE: This schedule reflects the flight assignments as of 20-NOV-85 10:14:40. Changes will be negotiated with the payload organizations effected and will be included in the next monthly update.

APPROVED:

Chester M. Lee
Director, STS Customer Services

HEADING ABBREVIATIONS

MSSN eg 41-H	STS mission designation First digit: Last digit of fiscal year Second digit: Launch site: 1=KSC;2=VAFB Letter: Serial flight in fiscal year
DATE:	Year,Month,Day
ORBTR:	Orbiter name
INCL:	Orbit inclination
ALT:	Orbit altitude (n.m.)
CRW:	Number in crew
DUR:	Flight duration
REQ DATE:	Requested date
UF:	Utilization Factor

For further information regarding the STS payload assignments, please address:

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Director, STS Customer Services, Mail Code MC
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	Fy85	Fy86	Fy87	Fy88	Fy89	Fy90
Flight Rate	8	15	18	18	24	24

ORBITAL FLIGHT TESTS

*** SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS ***
SPACE SHUTTLE MISSIONS AS PERFORMED

MSSN	DATE ORBTR	INCL ALT	CRW DUR	PAYLOAD	CARRIER	OTHER PAYLOADS
OFT-1 KSC	81 4 12 COLUMBIA	40.3 172	2 2	DFI	DFI PLT	OEX
OFT-2 KSC	81 11 12 COLUMBIA	38 140	2 2	OSTA-1 DFI	PALLET DFI PLT	OEX IECM
OFT-3 KSC	82 3 22 COLUMBIA	38 130	2 8	OSS-1 DFI	PALLET DFI PLT	IECM OEX SSIP(1) GAS TEST MLR EEVT
OFT-4 KSC	82 6 27 COLUMBIA	28.5 162	2 7	DOD 82-1 DFI	DFI PLT	OEX IECM MLR CFES NOSL SSIP(2) GAS(1)

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COMPLETED OPERATIONAL FLIGHTS

(STS-5 through STS 61-A)

*** SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS ***
NOVEMBER 1985 BASELINE

MSSN	DATE ORBTR	INCL ALT	CRW DUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
31-A	82 11 11	28.5	4	SBS-C	PAM-D	GLOW	0.93
5	COLUMBIA	160	5	TELESAT-E	PAM-D	SSIP(3)	
						GAS(1)	
31-B	83 4 4	28.5	4	TDRS-A	IUS/2	CFES	0.94
6	CHALLENGER	150	5			MLR,NOSL	
						GAS(3)	
31-C	83 6 18	28.5	5	SPAS-01		CFES	0.95
7	CHALLENGER	160	6	OSTA-2	MPESS	MLR	
				TELESAT-F	PAM-D	GAS(7)	
				PALAPA B-1	PAM-D		
31-D	83 8 30	28.5	5	PDRS/PFTA		CFES	0.59
8	CHALLENGER	160	6	OIM		RME	
				INSAT 1-B	PAM-D	GAS(4)	
						SSIP(1)	
41-A	83 11 28	57.0	6	SPACELAB 1	LM+1P		1.00
9	COLUMBIA	135	10				
41-B	84 2 3	28.5	5	SPAS-01A		ACES,IEF	0.71
11	CHALLENGER	165	8	PALAPA B-2	PAM-D	C-360c+b	
				WESTAR- 6	PAM-D	RME,MLR	
						GAS(5)	
						SSIP(1)	
						IRT	

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*** SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS ***
NOVEMBER 1985 BASELINE

MSSN	DATE ORBTR	INCL ALT	CRW DUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
41-C	84 4 6	28.5	5	LDEF-1		RME,IMAX	0.85
13	CHALLENGER	250	7	SMM REPAIR	FSS	C-360b	
						SSIP(1)	
41-D	84 8 30	28.5	6	OAST-1	MPESS	CFES III	1.00
14	DISCOVERY	160	6	SBS-D	PAM-D	IMAX	
				TELSTAR 3-C	PAM-D	RME	
				SYNCOM IV-2		SSIP(1)	
						CLOUDS	
41-G	84 10 5	57.0	7	OSTA-3	PALLET	IMAX	0.71
17	CHALLENGER	190	8	ERBS		RME	
				LFC/ORS	MPESS	GAS(8)	
						TLD	
						APE	
						CANEX	
51-A	84 11 8	28.5	5	HS-376 RETV(2)	2 PALLET	DMOS	0.98
19	DISCOVERY	160	8	TELESAT-H	PAM-D	RME	
				SYNCOM IV-1			
51-C	85 1 24	0.0	0	DOD			1.00
20	DISCOVERY	0	0				

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*** SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS ***
NOVEMBER 1985 BASELINE

MSSN	DATE ORBTR	INCL ALT	CRW DUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
51-D 23	85 4 12 DISCOVERY	28.5 250	7 5	TELESAT-I SYNCOM IV-3	PAM-D	CFES III AFE PPE/SAS SSIP(2) GAS(2)	
51-B 24	85 4 29 CHALLENGER	57.0 190	7 7	SPACELAB 3	LM+MPESS	GAS(2)	1.00L
51-G 25	85 6 17 DISCOVERY	28.5 190	7 7	SPARTAN-1 MORELOS-A ARABSAT-1B TELSTAR 3-D	MPESS PAM-D PAM-D PAM-D	FEE FPE ADSF HPTE GAS(6)	0.94W
51-F 26	85 7 29 CHALLENGER	50.0 207	7 7	SPACELAB 2	IG+3P	SAREX STTP CBDE	1.00D
51-I 27	85 8 27 DISCOVERY	28.5 190	5 8	AUSSAT- 1 ASC- 1 SYNCOM IV-4	PAM-D PAM-D	PVTOS SYNCOM- SALVAGE	0.00W

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*** SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS ***
NOVEMBER 1985 BASELINE

MSSN	DATE ORBTR	INCL ALT	CRW DUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
51-J 28	85 10 3 ATLANTIS	0.0 0	0 0	DOD			1.00D
61-A 30	85 10 30 CHALLENGER	57.0 175	8 7	SPACELAB D-1	LM	GLOMR	1.00D

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MANIFESTED FLIGHTS

(STS 61-B to STS 81-N)

Commercial customers making progress payments. NASA programs with authorized budgets and DOD missions with signed Form 100's.

*** SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS ***
NOVEMBER 1985 BASELINE

MSSN	DATE ORBTR	INCL ALT	CRW DUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
61-B 31	85 11 26 ATLANTIS	28.5 190	7 7	EASE/ACCESS MORELOS-B SATCOM KU-2 AUSSAT- 2	MPESS PAM-D PAM-D2 PAM-D	GAS(1) CFES IMAX DMOS MPSE	0.99W
61-C 32	85 12 18 COLUMBIA	28.5 175	7 5	MSL- 2 SATCOM KU-1 GAS BRIDGE	MPESS PAM-D2	HH-G1 IR-IE HPCG IBSE CHAMP SSIP(3) GAS(13)	0.73L
51-L 33	86 1 22 CHALLENGER	28.5 153	7 6	SPARTAN-HALLEY TDRS-B	MPESS IUS/2	TIS FDE CHAMP RME SSIP(1)	0.99W
61-E 34	86 3 6 COLUMBIA	28.5 190	7 9	ASTRO-1	IG+2P	CHAMP ELRAD IEF SSIP(2) GAS(1)	0.59W

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*** SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS ***
NOVEMBER 1985 BASELINE

MSSN	DATE ORBTR	INCL ALT	CRW DUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
62-A 1	86 3 20 DISCOVERY	0.0 0	0 0	DOD(V)			1.00D
61-F 35	86 5 15 CHALLENGER	28.5 110	4 4	ULYSSES	'CENTAUR		1.00D
61-G 36	86 5 20 ATLANTIS	28.5 110	4 4	GALILEO	'CENTAUR		1.00D
61-H 37	86 6 24 COLUMBIA	28.5 190	7 7	WESTAR VI-S PALAPA B-3 SKYNET-4A	PAM-D 'PAM-D PAM-D2		0.98W
61-M 38	86 7 22 CHALLENGER	28.5 154	6 5	EOS-1 TDRS-D	IUS/2		0.93W
61-J 39	86 8 18 ATLANTIS	28.5 320	5 5	HUBBLE SP TELS			1.00D
61-N 40	86 9 4 COLUMBIA	0.0 0	0 0	DOD			1.00D

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*** SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS ***
NOVEMBER 1985 BASELINE

MSSN	DATE ORBTR	INCL ALT	CRW DUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
61-I 41	86 9 27 CHALLENGER	28.5 230	7 5	LDEF-1 RETR INSAT 1-C	PAM-D		0.88L
62-B 2	86 9 29 DISCOVERY	0.0 0	0 0	DOD(V)			1.00D
61-K 42	86 10 27 ATLANTIS	57.0 135	7 7	EOM-1/2	SM+1P+MP		1.00L
61-L 43	86 11 6 COLUMBIA	28.5 160	7 7	MSL- 3 GSTAR-III SYNCOM IV-5	MPESS PAM-D2		0.85W
71-B 44	86 12 6 CHALLENGER	0.0 0	0 0	DOD			1.00D
71-A 45	87 1 12 ATLANTIS	28.5 160	7 7	ASTRO-2 DOD PAM- 1	IG+2P PAM-D2		0.73W
71-C 46	87 1 27 COLUMBIA	28.5 190	7 7	SHEAL- 1 SPARTAN-2 ASC- 2 SKYNET-4B	SPOC MPESS PAM-D PAM-D2		0.78W

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*** SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS ***
NOVEMBER 1985 BASELINE

MSSN	DATE ORBTR	INCL ALT	CRW DUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
71-D	87 2 16	28.5	6	EOS-2			0.93W
47	CHALLENGER	160	7	TDRS-C	IUS/2		
71-E	87 3 16	28.5	7	SLS- 1	LM		1.00D
48	ATLANTIS	160	7				
72-A	87 3 18	88.0	5	SRL- 2	IP+MPESS		
3	DISCOVERY	183	5	PL OPPTY			
71-F	87 3 24	28.5	5	MSL- 5	MPESS		0.89W
49	COLUMBIA	160	7	DOD PAM- 2	PAM-D2		
				DOD PAM- 3	PAM-D2		
71-G	87 4 14	28.5	6	SSBUV- 1			0.75W
50	CHALLENGER	160	7	EOIM-III	MPESS		
				MSL- 4(MEA)	MPESS		
				HS 376-R	PAM-D		
				DOD PAM- 4	PAM-D2		
71-H	87 5 18	0.0	0	DOD			1.00D
51	ATLANTIS	0	0				

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*** SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS ***
NOVEMBER 1985 BASELINE

MSSN	DATE ORBTR	INCL ALT	CRW DUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
71-I	87 5 27	28.5	7	IML- 1	LM		1.00D
52	COLUMBIA	160	7				
71-J	87 6 9	57.0	5	LDEF-2 (HNC)			0.83W
53	CHALLENGER	245	4				
71-K	87 7 15	28.5	5	MSL- 7	MPESS		1.00W
54	ATLANTIS	160	7	INTELSAT VI- 1			
				DOD PAM- 5	PAM-D2		
71-L	87 8 4	28.5	5	SSBUV- 2			1.00W
55	COLUMBIA	160	7	MSL- 6(MEA)	MPESS		
				SPARTAN-3	MPESS		
				DOD PAM- 6	PAM-D2		
				DOD PAM- 7	PAM-D2		
71-M	87 8 18	28.5	7	ASTRO-3	IG+2P		0.83W
56	CHALLENGER	193	7	CRRES			
71-N	87 9 17	0.0	0	DOD			1.00D
57	ATLANTIS	0	0				

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*** SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS ***
NOVEMBER 1985 BASELINE

MSSN	DATE ORBTR	INCL ALT	CRW DUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
71-O 58	87 9 28 COLUMBIA	57.0 256	5 7	SUNLAB- 1 ROSAT	IG+1P		0.99W
81-A 59	87 10 21 CHALLENGER	0.0 0	0 0	DOD			1.00D
81-B 60	87 11 9 ATLANTIS	28.5 160	5 7	MSL- 8 SPARTAN 205 IRCA-400 STC DBS-A	MPESS MPESS SCOTS PAM-D2		0.92L
81-C 61	87 11 16 COLUMBIA	28.5 160	6 7	SSBUV- 3 PL OPPTY SBS- 6 DOD PAM- 8	PAM-D2		0.84W
81-D 62	87 12 22 CHALLENGER	28.5 160	6 7	GALAXY KU-1 DOD PAM- 9 DOD PAM-10	PAM-D2 PAM-D2		1.00W
81-E 63	88 1 25 ATLANTIS	0.0 0	0 0	DOD			1.00D

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*** SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS ***
NOVEMBER 1985 BASELINE

MSSN	DATE ORBTR	INCL ALT	CRW DUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
81-F 64	88 2 2 COLUMBIA	28.5 160	6 7	EOM- 3 STC DBS-B DOD PAM-11	IG+1P PAM-D2 PAM-D2		0.95W
81-G 65	88 2 23 CHALLENGER	57.0 200	7 7	SPACELAB J	LM		1.00D
81-H 66	88 3 24 COLUMBIA	28.5 160	5 7	MSL- 9 SPARTAN 206 EURECA DOD PAM-12	MPESS MPESS PAM-D2		0.86W
82-A 4	88 4 1 DISCOVERY	0.0 0	0 0	DOD(V)			1.00D
81-I 67	88 4 6 ATLANTIS	28.5 160	4 2	VRM	CENTAUR		1.00D
81-J 68	88 5 4 CHALLENGER	0.0 0	0 0	DOD			1.00D
81-K 69	88 6 8 ATLANTIS	28.5 160	5 7	SSBUV- 4 GRO DOD PAM-13	PAM-D2		1.00W

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*** SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS ***
NOVEMBER 1985 BASELINE

MSSN	DATE ORBTR	INCL ALT	CRW DUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
81-L	88 6 14	28.5	5	MSL-1Ø	MPESS		Ø.73L
7Ø	COLUMBIA	16Ø	7	SPARTAN 211	MPESS		
				PL OPPTY			
				DOD PAM-14	PAM-D2		
82-B	88 7 15	99.Ø	5	COBE			1.ØØW
5	DISCOVERY	16Ø	7	PL OPPTY			
81-M	88 7 2Ø	28.5	7	SLS- 2	LM		1.ØØD
71	CHALLENGER	16Ø	7				
81-N	88 8 1Ø	Ø.Ø	Ø	DOD			1.ØØD
72	ATLANTIS	Ø	Ø				

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STS CUSTOMER REQUIREMENTS

Commercial customers who have made earnest money payments but have not begun making progress payments. Commercial customers will be added to shuttle flights with receipt of progress payments. NASA programs with authorized budgets and DOD missions with signed Form 1Ø0's.

STS CUSTOMER REQUIREMENTS FOR 1988

MON	COMMERCIAL REQUIREMENTS	BOOKING DATE	DOD REQUIREMENTS	NASA REQUIREMENTS	OTHER REQUIREMENTS
JAN	CBSC- 1	84 10 15		SPARTAN 207	NONE
	WESTAR- 8	84 1 19			
FEB	STC DBS-F	84 5 31		MSL-11	NONE
MAR				NONE	NONE
	WESTAR-A	84 1 19			
APR	NONE				NONE
				MSL-12	
				SPARTAN 204	
MAY	STC DBS-C	84 7 31	NONE		NONE
JUN	INTELSAT VI- 3	85 5 31	DOD PAM-15	NONE	NONE
	ITALSAT-1	83 5 10			
	RCA-4002	85 8 11			
	WESTAR-B	84 1 19			
JUL	SBTS-A3	82 8 25	DOD PAM-16	MSL-13	NONE
	INMARSAT II-1	85 7 23			
				SPARTAN 209	
AUG	RCA-4003	84 4 21		LEASECRAFT-101	NONE

STS CUSTOMER REQUIREMENTS FOR 1988

MON	COMMERCIAL REQUIREMENTS	BOOKING DATE	DOD REQUIREMENTS	NASA REQUIREMENTS	OTHER REQUIREMENTS
SEP	C2-SPACELINES	85 9 19	DOD(V)	DARK SKY	NONE
	CBSC- 2	84 10 15	DOD PAM-17	TSS-1	
	EURECA RETR	84 12 4			
	INTELSAT VI- 4	85 5 31			
	SPACELAB D-2	85 10 7			
	SPACENET-IV	85 1 23			
OCT	INSAT 1-D	85 11 15	DOD PAM-18	MSL-14	NONE
	SPACELAB D-4	84 4 9		SHEAL- 2	
				SPARTAN 210	
NOV	GALAXY KU-2	84 9 1	DOD PAM-19	EOM- 4	NONE
	USSB-A	85 7 25		LAGEOS- 2	
DEC	NONE		DOD	EUVE	NONE
			DOD	MSAT	
			DOD(V)		

STS CUSTOMER REQUIREMENTS FOR 1989

MON	COMMERCIAL REQUIREMENTS	BOOKING DATE	DOD REQUIREMENTS	NASA REQUIREMENTS	OTHER REQUIREMENTS
JAN	FASSC- 1	85 1 1	DOD PAM-20	MSL-15	NONE
	ORION-A	85 3 11		SPARTAN 208	
	WESTAR- 9	84 1 19			
FEB	USSB-B	85 7 25	DOD PAM-21	IML- 2	NONE
				LEASECRAFT-RET	
MAR	RCA-4004	85 8 1	NONE	MSL-16	NONE
	WESTAR-C	84 1 19		SUNLAB- 2	
	INMARSAT II-3	85 7 23			
APR	FASSC- 2	85 1 1	DOD	NONE	NONE
	ORION-B	85 4 24	DOD PAM-22		
MAY	NONE		DOD PAM-23	MSL-17	NONE
JUN	USSB-C	84 5 15	DOD	WAMDII	NONE
			DOD PAM-24		
JUL	FASSC- 3	85 1 1	DOD(V)	MAST- 1	NONE
	INTELSAT VI- 6	81 3 16	DOD PAM-25	MSL-18	
	ORION-C	85 4 24		OSTA-7	
	TELESAT-L	81 7 6			
AUG	NONE		DOD PAM-26	HUB SP TEL RET	NONE
				LEASECRAFT-102	

STS CUSTOMER REQUIREMENTS FOR 1989

MON	COMMERCIAL REQUIREMENTS	BOOKING DATE	DOD REQUIREMENTS	NASA REQUIREMENTS	OTHER REQUIREMENTS
SEP	RCA-4005	84 4 2	DOD(V)	ACTS	NONE
	SBTS-A4	82 8 25	DOD PAM-27	MSL-19	
				SLS- 3	
OCT	INTELSAT VI- 7	81 3 16	NONE	UARS	GOES-I
	ORION-D	85 4 24			NOAA-K
NOV	NONE		NONE	EOM- 5	NONE
DEC	SAX	84 10 31	NONE	SP PLASMA- 1	NONE

STS CUSTOMER REQUIREMENTS FOR 1990

MONTH	COMMERCIAL REQUIREMENTS	BOOKING DATE	DOD REQUIREMENTS	NASA REQUIREMENTS	OTHER REQUIREMENTS
JAN	INTELSAT VI- 8	181 3 16	NONE	SUNLAB- 3	GOES-J
	WESTAR-10	184 1 19			
FEB	NONE		NONE	OSTA-9	NONE
MAR	TELESAT-K	185 7 23	NONE	LDEF-2 RETR	NONE
APR	INTELSAT VI- 9	181 3 16	NONE	OMV	NONE
JUN	RCA-3001	185 8 1	NONE	NONE	NONE
JUL	NONE		NONE	CFMF- 1	NONE
				MAST- 2	
AUG	NONE		NONE	MARS OBSERVER	NOAA-L
SEP	NONE		NONE	SLS- 4	NONE
OCT	INTELSAT VI-10	181 3 16	NONE	EOM- 6	NONE
				SHEAL- 3	
NOV	TELESAT-M	181 7 6	NONE	NONE	NONE
DEC	NONE		NONE	RADARSAT	NONE

PAYLOAD DATA FOR OPTION NOV85

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PAYLOAD NAME	CARRIER	MSSN	FLT DATE	AVL DATE	BKG DATE
ACTS	PAM-D	NA	0 0 0	89 9 1	84 6 19
ARABSAT-1B	PAM-D	51-G	85 6 17	85 5 1	79 2 12
ASC- 1	PAM-D	51-I	85 8 27	85 9 1	79 2 12
ASC- 2	PAM-D	71-C	87 1 27	86 9 1	82 2 10
ASTRO-1	IG+2P	61-E	86 3 6	86 3 6	80 9 15
ASTRO-2	IG+2P	71-A	87 1 12	86 10 27	80 9 15
ASTRO-3	IG+2P	71-M	87 8 18	87 7 19	80 9 15
AUSSAT- 1	PAM-D	51-I	85 8 27	85 7 1	80 6 11
AUSSAT- 2	PAM-D	61-B	85 11 26	85 10 1	80 6 11
C2-SPACELINES		NA	0 0 0	88 9 1	85 9 19
CBSC- 1	PAM-D	NA	0 0 0	88 1 1	84 10 15
CBSC- 2	PAM-D	NA	0 0 0	88 9 1	84 10 15
CFMF- 1	PALLET	NA	0 0 0	90 7 1	83 6 30
COBE		82-B	88 7 15	88 4 1	79 9 15
CRRES		71-M	87 8 18	87 6 1	84 6 5
DARK SKY	IG+2P	NA	0 0 0	88 9 1	85 3 12
DBS LUX-A	PAM-D	NA	0 0 0	99 9 9	83 12 23
DBS LUX-B	PAM-D	NA	0 0 0	99 9 9	83 12 23
DBS LUX-C	PAM-D	NA	0 0 0	99 9 9	83 12 23
DOD		51-C	85 1 24	84 12 2	0 0 0
DOD		51-J	85 10 3	85 9 1	0 0 0
DOD		71-B	86 12 6	86 11 1	0 0 0
DOD		71-H	87 5 18	87 5 1	0 0 0
DOD		NA	0 0 0	88 12 1	0 0 0
DOD		81-A	87 10 21	87 10 1	0 0 0

PAYLOAD DATA FOR OPTION NOV85 — 19-NOV-85 11:01

PAYLOAD NAME	CARRIER	MSSN	FLT DATE	AVL DATE	BKG DATE
DOD		81-J	88 5 4	88 4 1	0 0 0
DOD		81-E	88 1 25	88 1 1	0 0 0
DOD		NA	0 0 0	88 8 1	0 0 0
DOD		NA	0 0 0	88 12 1	0 0 0
DOD		NA	0 0 0	89 6 1	0 0 0
DOD		NA	0 0 0	89 4 1	0 0 0
DOD		71-N	87 9 17	87 9 1	0 0 0
DOD		61-N	86 9 4	86 9 1	0 0 0
DOD PAM- 1	PAM-D2	71-A	87 1 12	86 8 22	0 0 0
DOD PAM- 2	PAM-D2	71-F	87 3 24	86 11 7	82 3 23
DOD PAM- 3	PAM-D2	71-F	87 3 24	86 12 19	82 3 23
DOD PAM- 4	PAM-D2	71-G	87 4 14	87 2 20	82 3 23
DOD PAM- 5	PAM-D2	71-K	87 7 15	87 4 3	82 3 23
DOD PAM- 6	PAM-D2	71-L	87 8 4	87 5 15	82 3 23
DOD PAM- 7	PAM-D2	71-L	87 8 4	87 6 26	82 3 23
DOD PAM- 8	PAM-D2	81-C	87 11 16	87 8 7	82 3 23
DOD PAM- 9	PAM-D2	81-D	87 12 22	87 9 18	82 3 23
DOD PAM-10	PAM-D2	81-D	87 12 22	87 10 30	82 3 23
DOD PAM-11	PAM-D2	81-F	88 2 2	87 12 15	82 3 23
DOD PAM-12	PAM-D2	81-H	88 3 24	88 2 5	82 3 23
DOD PAM-13	PAM-D2	81-K	88 6 8	88 3 18	82 3 23
DOD PAM-14	PAM-D2	81-L	88 6 14	88 4 29	82 3 23
DOD PAM-15	PAM-D2	NA	0 0 0	88 6 10	82 3 23
DOD PAM-16	PAM-D2	NA	0 0 0	88 7 22	82 3 23
DOD PAM-17	PAM-D2	NA	0 0 0	88 9 2	82 3 23

PAYLOAD DATA FOR OPTION NOV85 — 19-NOV-85 11:01

PAYLOAD NAME	CARRIER	MSSN	FLT DATE	AVL DATE	BKG DATE
DOD PAM-18	PAM-D2	NA	0 0 0	88 10 14	82 3 23
DOD PAM-19	PAM-D2	NA	0 0 0	88 11 25	82 3 23
DOD PAM-20	PAM-D2	NA	0 0 0	89 1 13	82 3 23
DOD PAM-21	PAM-D2	NA	0 0 0	89 2 24	82 3 23
DOD PAM-22	PAM-D2	NA	0 0 0	89 4 7	82 3 23
DOD PAM-23	PAM-D2	NA	0 0 0	89 5 12	82 3 23
DOD PAM-24	PAM-D2	NA	0 0 0	89 6 16	82 3 23
DOD PAM-25	PAM-D2	NA	0 0 0	89 7 21	82 3 23
DOD PAM-26	PAM-D2	NA	0 0 0	89 8 25	82 3 23
DOD PAM-27	PAM-D2	NA	0 0 0	89 9 29	82 3 23
DOD(V)		62-A	86 3 20	86 3 1	0 0 0
DOD(V)		NA	0 0 0	88 9 1	0 0 0
DOD(V)		NA	0 0 0	88 12 1	0 0 0
DOD(V)		NA	0 0 0	89 9 1	0 0 0
DOD(V)		NA	0 0 0	89 7 1	0 0 0
DOD(V)		82-A	88 4 1	88 4 1	0 0 0
DOD(V)		62-B	86 9 29	86 9 1	0 0 0
DOD-PATIE	LM	NA	0 0 0	87 6 1	85 6 27
EASE/ACCESS	MPESS	61-B	85 11 26	85 11 1	83 10 18
EOIM-III	MPESS	71-G	87 4 14	86 9 1	85 8 8
EOM- 3	IG+1P	81-F	88 2 2	87 10 1	82 9 18
EOM- 4	IG+1P	NA	0 0 0	88 11 1	83 7 11
EOM- 5	IG+1P	NA	0 0 0	89 11 1	83 7 11
EOM- 6	IG+1P	NA	0 0 0	90 10 1	83 7 11
EOM- 7	IG+1P	NA	0 0 0	91 10 1	83 7 11

PAYLOAD DATA FOR OPTION NOV85 — 19-NOV-85 11:01

PAYLOAD NAME	CARRIER	MSSN	FLT DATE	AVL DATE	BKG DATE
EOM- 8	IG+1P	NA	0 0 0	92 10 1	83 7 11
EOM- 9	IG+1P	NA	0 0 0	93 10 1	83 7 11
EOM-1/2	SM+1P+MP	61-K	86 10 27	86 8 1	83 11 2
EOM-10	IG+1P	NA	0 0 0	94 10 1	83 7 11
EOM-11	IG+1P	NA	0 0 0	95 10 1	83 7 11
EOM-12	IG+1P	NA	0 0 0	96 10 1	83 7 11
EOS-1		61-M	86 7 22	85 11 1	81 6 29
EOS-2		71-D	87 2 16	86 6 1	81 6 29
ERBS		41-G	84 10 5	84 5 1	79 6 15
EURECA		81-H	88 3 24	88 3 1	84 12 4
EURECA RETR		NA	0 0 0	88 9 1	84 12 4
EUVE		NA	0 0 0	88 12 1	84 6 6
FASSC- 1		NA	0 0 0	89 1 1	85 1 1
FASSC- 2		NA	0 0 0	89 4 1	85 1 1
FASSC- 3		NA	0 0 0	89 7 1	85 1 1
GALAXY KU-1		81-D	87 12 22	87 11 1	84 9 1
GALAXY KU-2		NA	0 0 0	88 11 1	84 9 1
GALILEO	CENTAUR	61-G	86 5 20	86 5 21	77 9 12
GAS BRIDGE		61-C	85 12 18	84 8 1	83 6 14
GOES-I	PAM-D	NA	0 0 0	89 10 1	83 7 20
GOES-J	PAM-D	NA	0 0 0	90 1 1	83 7 20
GRO		81-K	88 6 8	88 5 1	79 9 15
GSTAR-III	PAM-D2	61-L	86 11 6	85 7 1	80 4 7
HS 376-R	PAM-D	71-G	87 4 14	85 7 1	78 12 12
HS-376 RETV(2)	2 PALLET	51-A	84 11 8	84 11 2	0 0 0

PAYLOAD DATA FOR OPTION NOV85 — 19-NOV-85 11:01

PAYLOAD NAME	CARRIER	MSSN	FLT DATE	AVL DATE	BKG DATE
HUB SP TEL RET		NA	0 0 0	89 8 1	83 3 25
HUBBLE SP TELS		61-J	86 8 18	86 6 1	83 3 25
IML- 1	LM	71-I	87 5 27	87 5 1	81 6 1
IML- 2	LM+1P	NA	0 0 0	89 2 1	83 12 22
INMARSAT II-1	PAM-D	NA	0 0 0	89 7 22	85 7 23
INMARSAT II-3	PAM-D	NA	0 0 0	89 3 22	85 7 23
INSAT 1-B	PAM-D	31-D	83 8 30	83 7 1	77 10 19
INSAT 1-C	PAM-D	61-I	86 9 27	86 6 1	82 11 13
INSAT 1-D	PAM-D	NA	0 0 0	88 10 1	85 11 15
INTELSAT VI- 1		71-K	87 7 15	87 6 1	85 9 23
INTELSAT VI- 2		NA	0 0 0	87 1 1	81 3 16
INTELSAT VI- 3		NA	0 0 0	88 6 1	85 5 31
INTELSAT VI- 4		NA	0 0 0	88 9 1	85 5 31
INTELSAT VI- 5		NA	0 0 0	91 9 1	81 3 16
INTELSAT VI- 6		NA	0 0 0	89 7 1	81 3 16
INTELSAT VI- 7		NA	0 0 0	89 10 1	81 3 16
INTELSAT VI- 8		NA	0 0 0	90 1 1	81 3 16
INTELSAT VI- 9		NA	0 0 0	90 4 1	81 3 16
INTELSAT VI-10		NA	0 0 0	90 10 1	81 3 16
INTELSAT VI-11		NA	0 0 0	91 1 1	81 3 16
ITALSAT-1	PAM-D2	NA	0 0 0	88 6 1	83 5 10
LAGEOS- 2	IRIS	NA	0 0 0	88 11 1	85 5 31
LDEF-1		41-C	84 4 6	84 1 1	77 7 26
LDEF-1 RETR		61-I	86 9 27	85 1 1	77 7 26
LDEF-2 (HNC)		71-J	87 6 9	87 5 1	84 6 1

PAYLOAD DATA FOR OPTION NOV85 — 19-NOV-85 11:01

PAYLOAD NAME	CARRIER	MSSN	FLT DATE	AVL DATE	BKG DATE
LDEF-2 RETR		NA	0 0 0	90 3 1	80 9 22
LEASECRAFT-101		NA	0 0 0	88 8 24	84 1 11
LEASECRAFT-102		NA	0 0 0	89 8 1	84 1 11
LEASECRAFT-RET		NA	0 0 0	89 2 1	84 1 11
LFC	MPESS	NA	0 0 0	84 1 1	81 12 21
LFC/ORS	MPESS	41-G	84 10 5	84 7 1	79 9 15
MARS OBSERVER		NA	0 0 0	90 8 20	85 7 25
MAST- 1	PALLET	NA	0 0 0	89 7 1	84 1 19
MAST- 2	PALLET	NA	0 0 0	90 7 1	84 1 19
MORELOS-A	PAM-D	51-G	85 6 17	85 5 1	82 6 1
MORELOS-B	PAM-D	61-B	85 11 26	85 9 1	82 6 1
MSAT		NA	0 0 0	88 12 1	85 2 21
MSL- 2	MPESS	61-C	85 12 18	85 8 1	79 9 15
MSL- 3	MPESS	61-L	86 11 6	85 12 1	77 9 12
MSL- 4(MEA)	MPESS	71-G	87 4 14	86 3 1	83 8 17
MSL- 5	MPESS	71-F	87 3 24	86 4 1	80 9 15
MSL- 6(MEA)	MPESS	71-L	87 8 4	86 10 1	79 9 15
MSL- 7	MPESS	71-K	87 7 15	87 3 1	83 8 17
MSL- 8	MPESS	81-B	87 11 9	87 4 1	81 7 7
MSL- 9	MPESS	81-H	88 3 24	87 9 1	83 8 17
MSL-10	MPESS	81-L	88 6 14	87 10 1	79 9 15
MSL-11	MPESS	NA	0 0 0	88 2 1	83 8 17
MSL-12	MPESS	NA	0 0 0	88 4 1	82 9 18
MSL-13	MPESS	NA	0 0 0	88 7 1	83 8 17
MSL-14	MPESS	NA	0 0 0	88 10 1	83 12 22

PAYLOAD DATA FOR OPTION NOV85 — 19-NOV-85 11:01

PAYLOAD NAME	CARRIER	MSSN	FLT DATE	AVL DATE	BKG DATE
MSL-15	MPESS	NA	0 0 0	89 1 1	83 12 22
MSL-16	MPESS	NA	0 0 0	89 3 1	83 12 22
MSL-17	MPESS	NA	0 0 0	89 5 1	83 12 22
MSL-18	MPESS	NA	0 0 0	89 7 1	83 12 22
MSL-19	MPESS	NA	0 0 0	89 9 1	83 12 22
NOAA-K		NA	0 0 0	89 10 1	83 9 2
NOAA-L		NA	0 0 0	90 8 1	83 9 2
NOAA-M		NA	0 0 0	91 3 1	83 9 2
NOAA-N		NA	0 0 0	92 8 1	83 9 2
NOAA-O		NA	0 0 0	93 3 1	83 9 2
NOAA-P		NA	0 0 0	94 8 1	83 9 2
OAST-1	MPESS	41-D	84 8 30	84 4 1	79 1 22
OAST-3	MPESS	NA	0 0 0	87 6 1	81 7 7
OIM		31-D	83 8 30	83 8 11	83 5 4
OMV		NA	0 0 0	90 4 1	84 10 25
ORION-A	PAM-D2	NA	0 0 0	89 1 1	85 3 11
ORION-B	PAM-D2	NA	0 0 0	89 4 1	85 4 24
ORION-C	PAM-D2	NA	0 0 0	89 7 1	85 4 24
ORION-D	PAM-D2	NA	0 0 0	89 10 1	85 4 24
OSTA-1	PALLET	NA	0 0 0	93 4 1	85 4 18
OSTA-2	MPESS	7	83 6 18	83 4 20	79 1 22
OSTA-3	PALLET	41-G	84 10 5	84 7 1	79 9 15
OSTA-7	PALLET	NA	0 0 0	89 7 1	85 4 18
OSTA-9	PALLET	NA	0 0 0	90 2 1	85 4 18
PALAPA B-1	PAM-D	7	83 6 18	83 3 1	78 12 12

PAYLOAD DATA FOR OPTION NOV85 — 19-NOV-85 11:01

PAYLOAD NAME	CARRIER	MSSN	FLT DATE	AVL DATE	BKG DATE
PALAPA B-2	PAM-D	41-B	84 2 3	83 6 1	78 12 12
PALAPA B-3	PAM-D	61-H	86 6 24	86 7 1	84 10 20
PDRS/PFTA		31-D	83 8 30	82 5 1	76 1 1
PL OPPTY OR		NA	0 0 0	0 0 0	81 1 1
RADARSAT		NA	0 0 0	90 12 1	84 10 22
RCA-3001	SCOTS	NA	0 0 0	90 6 1	85 8 1
RCA-3002	SCOTS	NA	0 0 0	91 1 1	79 11 16
RCA-4001	SCOTS	81-B	87 11 9	87 11 1	81 9 2
RCA-4002	SCOTS	NA	0 0 0	88 6 1	85 8 1
RCA-4003	SCOTS	NA	0 0 0	88 8 1	84 4 2
RCA-4004	SCOTS	NA	0 0 0	89 3 1	85 8 1
RCA-4005	SCOTS	NA	0 0 0	89 9 1	84 4 2
RCA-4006	SCOTS	NA	0 0 0	91 6 1	85 2 1
ROSAT		71-O	87 9 28	87 9 1	82 7 2
SATCOL-A	PAM-D	NA	0 0 0	90 9 9	82 10 18
SATCOL-B	PAM-D	NA	0 0 0	90 9 9	82 10 18
SATCOM KU-1	PAM-D2	61-C	85 12 18	85 9 1	79 11 16
SATCOM KU-2	PAM-D2	61-B	85 11 26	85 9 1	81 9 2
SAX	IRIS	NA	0 0 0	89 12 1	84 10 31
SBS- 6		81-C	87 11 16	87 11 1	85 1 25
SBS-C	PAM-D	31-A	82 11 11	82 11 11	77 2 2
SBS-D	PAM-D	41-D	84 8 30	84 8 1	79 12 27
SBS-E	PAM-D	NA	0 0 0	86 10 1	83 4 27
SBTS-A3	PAM-D	NA	0 0 0	88 7 1	82 8 25
SBTS-A4	PAM-D	NA	0 0 0	89 9 6	82 8 25

PAYLOAD DATA FOR OPTION NOV85 — 19-NOV-85 11:01

PAYLOAD NAME	CARRIER	MSSN	FLT DATE	AVL DATE	BKG DATE
SHARE		NA	0 0 0	85 11 1	84 10 5
SHEAL- 1	SPOC	71-C	87 1 27	86 7 1	84 1 25
SHEAL- 2	SPOC	NA	0 0 0	88 10 1	81 7 7
SHEAL- 3	SPOC	NA	0 0 0	90 10 1	83 12 22
SKYNET-4A	PAM-D2	61-H	86 6 24	86 5 1	82 3 23
SKYNET-4B	PAM-D2	71-C	87 1 27	86 10 1	82 3 23
SLS- 1	LM	71-E	87 3 16	87 2 1	77 9 12
SLS- 2	LM	81-M	88 7 20	88 7 1	84 1 7
SLS- 3	LM	NA	0 0 0	89 9 1	80 9 15
SLS- 4	LM	NA	0 0 0	90 9 1	83 12 22
SMM REPAIR	FSS	41-C	84 4 6	84 4 1	81 8 24
SOT-1	IG+2P	NA	0 0 0	91 6 1	80 9 15
SP PLASMA- 1	IG+1P	NA	0 0 0	89 12 1	83 4 11
SP PLASMA- 2	IG+2P	NA	0 0 0	91 12 1	83 12 22
SPACELAB 1	LM+1P	41-A	83 11 28	83 9 30	78 5 18
SPACELAB 2	IG+3P	51-F	85 7 29	85 4 1	76 4 7
SPACELAB 3	LM+MPESS	51-B	85 4 29	85 1 22	76 4 4
SPACELAB D-1	LM	61-A	85 10 30	85 8 15	78 1 3
SPACELAB D-2	LM	NA	0 0 0	88 9 1	85 10 7
SPACELAB D-4	IG+2P	NA	0 0 0	88 10 1	84 4 9
SPACELAB J	LM	81-G	88 2 23	88 1 1	81 6 1
SPACENET-IV	PAM-D	NA	0 0 0	88 9 1	85 1 23
SPARTAN 204	MPESS	NA	0 0 0	88 4 1	85 4 19
SPARTAN 205	MPESS	81-B	87 11 9	87 4 1	85 4 19
SPARTAN 206	MPESS	81-H	88 3 24	87 7 1	85 4 19

PAYLOAD DATA FOR OPTION NOV85 — 19-NOV-85 11:01

PAYLOAD NAME	CARRIER	MSSN	FLT DATE	AVL DATE	BKG DATE
SPARTAN 207	MPESS	NA	0 0 0	88 1 1	85 4 19
SPARTAN 208	MPESS	NA	0 0 0	89 1 1	85 4 19
SPARTAN 209	MPESS	NA	0 0 0	88 7 1	85 4 19
SPARTAN 210	MPESS	NA	0 0 0	88 10 1	85 4 19
SPARTAN 211	MPESS	81-L	88 6 14	87 10 1	85 4 19
SPARTAN-1	MPESS	51-G	85 6 17	85 5 1	79 11 6
SPARTAN-2	MPESS	71-C	87 1 27	86 9 1	79 11 6
SPARTAN-3	MPESS	71-L	87 8 4	86 12 1	79 11 6
SPARTAN-HALLEY	MPESS	51-L	86 1 22	86 1 1	84 5 23
SPAS-01		7	83 6 18	83 4 1	78 5 12
SPAS-01A		41-B	84 2 3	84 1 1	89 9 9
SRL- 2	1P+MPESS	72-A	87 3 18	87 2 1	84 10 19
SSBUV- 1		71-G	87 4 14	86 10 1	85 3 28
SSBUV- 2		71-L	87 8 4	87 4 1	85 3 28
SSBUV- 3		81-C	87 11 16	87 10 1	85 3 28
SSBUV- 4		81-K	88 6 8	88 4 1	85 3 28
STC DBS-A	PAM-D2	81-B	87 11 9	86 10 1	85 5 14
STC DBS-B	PAM-D2	81-F	88 2 2	86 12 1	85 5 14
STC DBS-C	PAM-D	NA	0 0 0	88 5 1	84 7 31
STC DBS-D	PAM-D	NA	0 0 0	87 10 1	83 11 1
STC DBS-E	PAM-D	NA	0 0 0	87 11 1	84 4 13
STC DBS-F	PAM-D	NA	0 0 0	88 2 1	84 5 31
SUNLAB- 1	IG+1P	71-O	87 9 28	87 5 1	83 8 9
SUNLAB- 2	IG+1P	NA	0 0 0	89 3 1	83 9 23
SUNLAB- 3	IG+1P	NA	0 0 0	90 1 1	83 12 22

PAYLOAD DATA FOR OPTION NOV85 — 19-NOV-85 11:01

PAYLOAD NAME	CARRIER	MSSN	FLT DATE	AVL DATE	BKG DATE
SYNCOM IV-1		51-A	84 11 8	84 3 1	78 11 6
SYNCOM IV-2		41-D	84 8 30	84 7 1	78 11 6
SYNCOM IV-3		51-D	85 4 12	85 2 1	78 11 6
SYNCOM IV-4		51-I	85 8 27	85 7 1	78 11 6
SYNCOM IV-5		61-L	86 11 6	85 12 1	85 4 23
TDRS-A	IUS/2	6	83 4 4	83 1 20	78 5 18
TDRS-B	IUS/2	51-L	86 1 22	85 3 1	77 7 11
TDRS-C	IUS/2	71-D	87 2 16	86 1 1	84 8 3
TDRS-D	IUS/2	61-M	86 7 22	85 7 1	84 3 1
TELESAT-E	PAM-D	31-A	82 11 11	82 11 11	77 3 8
TELESAT-F	PAM-D	7	83 6 18	83 4 1	77 3 8
TELESAT-H	PAM-D	51-A	84 11 8	84 10 1	78 9 25
TELESAT-I	PAM-D	51-D	85 4 12	84 4 1	77 3 8
TELESAT-J	PAM-D2	NA	0 0 0	92 5 1	84 4 14
TELESAT-K	PAM-D2	NA	0 0 0	90 3 1	85 7 23
TELESAT-L	PAM-D2	NA	0 0 0	89 7 1	81 7 6
TELESAT-M	PAM-D2	NA	0 0 0	90 11 1	81 7 6
TELESAT-N	PAM-D2	NA	0 0 0	91 2 1	81 7 6
TELSTAR 3-B	PAM-D2	NA	0 0 0	93 5 1	83 11 30
TELSTAR 3-C	PAM-D	41-D	84 8 30	84 7 1	79 6 13
TELSTAR 3-D	PAM-D	51-G	85 6 17	85 5 1	79 6 13
TEMPS-III-B		NA	0 0 0	86 6 1	84 8 1
TSS-1	PALLET	NA	0 0 0	88 9 1	85 2 26
UARS	MMS	NA	0 0 0	89 10 1	84 11 13
ULYSSES	CENTAUR	61-F	86 5 15	86 5 17	77 10 1

PAYLOAD DATA FOR OPTION NOV85 — 10-NOV-85 11:01

PAYLOAD NAME	CARRIER	MSSN	FLT DATE	AVL DATE	BKG DATE
USSB-A		NA	0 0 0	88 11 1	85 7 25
USSB-B		NA	0 0 0	89 2 1	85 7 25
USSB-C		NA	0 0 0	89 6 1	84 5 15
VRM	CENTAUR	81-1	88 4 6	88 4 6	83 6 3
WAMDII	SPOC	NA	0 0 0	89 6 1	85 5 16
WESTAR VI-S	PAM-D	61-H	86 6 24	85 9 1	82 7 15
WESTAR- 6	PAM-D	41-B	84 2 3	84 1 29	83 3 28
WESTAR- 8	PAM-D	NA	0 0 0	88 1 1	84 1 19
WESTAR- 9	PAM-D	NA	0 0 0	89 1 1	84 1 19
WESTAR-10	PAM-D	NA	0 0 0	90 1 1	84 1 19
WESTAR-11	PAM-D	NA	0 0 0	92 3 1	84 1 19
WESTAR-12	PAM-D	NA	0 0 0	92 7 1	84 1 19
WESTAR-13	PAM-D	NA	0 0 0	94 2 1	84 1 19
WESTAR-14	PAM-D	NA	0 0 0	95 10 1	84 1 19
WESTAR-15	PAM-D	NA	0 0 0	98 2 1	84 1 19
WESTAR-16	PAM-D	NA	0 0 0	99 2 1	84 1 19
WESTAR-17	PAM-D	NA	0 0 0	0 0 0	84 1 19
WESTAR-A	PAM-D2	NA	0 0 0	88 3 1	84 1 19
WESTAR-B	PAM-D2	NA	0 0 0	88 6 1	84 1 19
WESTAR-C	PAM-D2	NA	0 0 0	89 3 1	84 1 19
WESTAR-D	PAM-D2	NA	0 0 0	98 4 1	84 1 19
WESTAR-E	PAM-D2	NA	0 0 0	98 7 1	84 1 19
WESTAR-F	PAM-D2	NA	0 0 0	99 4 1	84 1 19

SPACE SHUTTLE CREW ASSIGNMENTS

C - COMMANDER
P - PILOT
MS - MISSION SPECIALIST
PS - PAYLOAD SPECIALIST
SFP - SPACE FLIGHT PARTICIPANT

STS-1
LAUNCH: 12 APR 1981
LANDING: 14 APR 1981
COLUMBIA
C: JOHN W. YOUNG (USN, RET.)
P: ROBERT L. CRIPPEN (CAPT., USN)

STS-2
LAUNCH: 12 NOV 1981
LANDING: 14 NOV 1981
COLUMBIA
C: JOE H. ENGLE (COL., USAF)
P: RICHARD H. TRULY (CAPT., USN)

STS-3
LAUNCH: 22 MAR 1982
LANDING: 30 MAR 1982
COLUMBIA
C: JACK R. LOUSMA (COL., USMC)
P: CHARLES G. FULLERTON (COL., USAF)

STS-4
LAUNCH: 27 JUN 1982
LANDING: 04 JUL 1982
COLUMBIA
C: THOMAS K. MATTINGLY II (CAPT., USN)
P: HENRY W. HARTSFIELD, JR. (USAF, RET.)

STS-5
LAUNCH: 11 NOV 1982
LANDING: 16 NOV 1982
COLUMBIA
C: VANCE D. BRAND (CIVILIAN)
P: ROBERT F. OVERMYER (COL., USMC)
MS: JOSEPH P. ALLEN (PhD - PHYSICS)
MS: WILLIAM B. LENOIR (PhD - SCIENCE)

STS-6
LAUNCH: 04 APR 1983
LANDING: 09 APR 1983
CHALLENGER
C: PAUL J. WEITZ (CAPT., USN, RET.)
P: KAROL J. BOBKO (COL., USAF)
MS: DONALD H. PETERSON (COL., USAF, RET.)
MS. F. STOREY MUSGRAVE (M.D.)

STS-7	C:	ROBERT L. CRIPPEN (CAPT., USN)
LAUNCH: 18 JUN 1983	P:	FREDERICK H. HAUCK (CAPT., USN)
LANDING: 24 JUN 1983	MS:	JOHN M. FABIAN (COL., USAF)
CHALLENGER	MS:	SALLY K. RIDE (PhD - PHYSICS)
	MS:	NORMAN E. THAGARD (M.D.)
STS-8	C:	RICHARD H. TRULY (CAPT., USN)
LAUNCH: 30 AUG 1983	P:	DANIEL C. BRANDENSTEIN (CDR., USN)
LANDING: 05 SEP 1983	MS:	DALE A. GARDNER (LT. CDR., USN)
CHALLENGER	MS:	GUION S. BLUFORD (MAJ., USAF)
	MS:	WILLIAM E. THORNTON (M.D.)
STS-9	C:	JOHN W. YOUNG (USN, RET.)
LAUNCH: 28 NOV 1983	P:	BREWSTER H. SHAW, JR. (MAJ., USAF)
LANDING: 08 DEC 1983	MS:	OWEN K. GARRIOTT (PhD - ELECTRICAL ENGINEERING)
COLUMBIA	MS:	ROBERT A. PARKER (PhD - ASTRONOMY)
	PS:	ULF MERBOLD, ESA (PHYSICIST)
	PS:	BYRON K. LICHTENBERG, MIT (PhD - BIOMEDICAL ENGINEERING)
41-B	C:	VANCE D. BRAND (CIVILIAN)
LAUNCH: 03 FEB 1984	P:	ROBERT L. GIBSON (LT. CDR., USN)
LANDING: 11 FEB 1984	MS:	BRUCE McCANDLESS II (CDR., USN)
CHALLENGER	MS:	ROBERT L. STEWART (MAJ., USA)
	MS:	RONALD E. McNAIR (PhD - PHYSICS)
41-C	C:	ROBERT L. CRIPPEN (CAPT., USN)
LAUNCH: 06 APR 1984	P:	FRANCIS R. SCOBEE (USAF, RET.)
LANDING: 13 APR 1984	MS:	GEORGE D. NELSON (PhD - ASTRONOMY)
CHALLENGER	MS:	TERRY J. HART (M.S. - ELECTRICAL ENGINEERING)
	MS:	JAMES D. VAN HOFTEN (PhD - FLUID MECHANICS)
41-D	C:	HENRY W. HARTSFIELD (USAF, RET.)
LAUNCH: 30 AUG 1984	P:	MICHAEL L. COATS (LT. CDR., USN)
LANDING: 05 SEP 1984	MS:	RICHARD A. MULLANE (MAJ., USAF)
DISCOVERY	MS:	STEVEN A. HAWLEY (PhD - ASTRONOMY/ASTROPHYSICS)
	MS:	JUDITH A RESNIK (PhD - ELECTRICAL ENGINEERING)
	PS:	CHARLES D. WALKER (McDONNELL DOUGLAS)

41-G	C:	ROBERT L. CRIPPEN (CAPT., USN)
LAUNCH: 05 OCT 1984	P:	JON A . McBRIDE (CDR., USN)
LANDING: 13 OCT 1984	MS:	KATHRYN D. SULLIVAN (PhD - GEOLOGY)
CHALLENGER	MS:	SALLY K. RIDE (PhD - PHYSICS)
	MS:	DAVID C. LEESTMA (LT. CDR., USN)
	PS:	MARC GARNEAU (NRCC, CANADA)
	PS:	PAUL D. SCULLY-POWER (U.S. NAVY CIVILIAN)
51-A	C:	FREDERICK H. HAUCK (CAPT., USN)
LAUNCH: 08 NOV 1984	P:	DAVID M. WALKER (CDR., USN)
LANDING: 16 NOV 1984	MS:	ANNA L. FISHER (M.D.)
DISCOVERY	MS:	DALE A. GARDNER (LT. CDR., USN)
	MS:	JOSEPH P. ALLEN (PhD - PHYSICS)
51-C	C:	THOMAS K. MATTINGLY II (CAPT., USN)
LAUNCH: 24 JAN 1985	P:	LOREN J. SHRIVER (LT. COL., USAF)
LANDING: 27 JAN 1985	MS:	JAMES F. BUCHLI (LT. COL., USMC)
DISCOVERY	MS:	ELLISON S. ONIZUKA (MAJ., USAF)
	PS:	GARY E. PAYTON (MAJ., USAF)
51-D	C:	KAROL J. BOBKO (COL., USAF)
LAUNCH: 12 APR 1985	P:	DONALD E. WILLIAMS (CDR., USN)
LANDING: 17 APR 1985	MS:	M. RHEA SEDDON (M.D.)
DISCOVERY	MS:	JEFFREY A. HOFFMAN (PhD - ASTROPHYSICS)
	MS:	S. DAVID GRIGGS (COL., USAF)
	PS:	CHARLES D. WALKER (McDONNELL DOUGLAS)
	PS:	E. JAKE GARN (U.S. SENATE)
51-B	C:	ROBERT F. OVERMYER (COL., USMC)
LAUNCH: 29 APR 1985	P:	FREDERICK D. GREGORY (LT. COL., USAF)
LANDING: 06 MAY 1985	MS:	DON L. LIND (PhD - HIGH ENERGY NUCLEAR PHYSICS)
CHALLENGER	MS:	NORMAN E. THAGARD (M.D.)
	MS:	WILLIAM E. THORNTON (M.D.)
	PS:	LODEWIJK VAN DEN BERG (EG&G CORP.)
	PS:	TAYLOR G. WANG (JET PROPULSION LABORATORY)

51-G	C:	DANIEL C. BRANDENSTEIN (CAPT., USN)
LAUNCH: 17 JUN 1985	P:	JOHN O. CREIGHTON (CDR., USN)
LANDING: 24 JUN 1985	MS:	SHANNON W. LUCID (PhD - BIOCHEMISTRY)
DISCOVERY	MS:	STEVEN R. NAGEL (LT. COL.,USAF)
	MS:	JOHN M. FABIAN (COL.,USAF)
	PS:	SALMAN ABDELAZIZE AL-SAUD (ARABSAT)
	PS:	PATRICK BAUDRY (FRANCE)
51-F	C:	CHARLES G. FULLERTON (COL., USAF)
LAUNCH: 29 JUL 1985	P:	ROY D. BRIDGES (COL., USAF)
LANDING: 05 AUG 1985	MS:	F. STORY MUSGRAVE (M.D.)
CHALLENGER	MS:	ANTHONY W. ENGLAND (PhD - EARTH & PLANETARY SCIENCE)
	MS:	KARL G. HENIZE (PhD - ASTRONOMY)
	PS:	LOREN W. ACTON (LOCKHEED)
	PS:	JOHN-DAVID BARTOE (U.S. NAVY CIVILIAN)
51-I	C:	JOE H. ENGLE (COL., USAF)
LAUNCH: 24 AUG 1985	P:	RICHARD O. COVEY (LT. COL., USAF)
LANDING: 01 SEP 1985	MS:	JAMES VAN HOFTEN (PhD - FLUID MECHANICS)
DISCOVERY	MS:	JOHN M. LOUNGE (M.S. - ASTROPHYSICS)
	MS:	WILLIAM F. FISHER (M.D.)
51-J	C:	KAROL BOBKO (COL., USAF)
LAUNCH: 01 OCT 1985	P:	RONALD J. GRABE (LT. COL., USAF)
LANDING:	MS:	ROBERT STEWART (COL., USA)
ATLANTIS	MS:	DAVID HILMERS (MAJ., USMC)
	PS:	WILLIAM A. PALES (MAJ., USAF)
61-A	C:	HENRY W. HARTSFIELD (USAF, RET.)
LAUNCH: 30 OCT 1985	P:	STEVEN R. NAGEL (MAJ., USAF)
LANDING: 06 NOV 1985	MS:	JAMES F. BUCHLI (LT. COL., USMC)
CHALLENGER	MS:	GUION S. BLUFORD, JR. (LT. COL., USAF)
	MS:	BONNIE J. DUNBAR (PhD - BIOMEDICAL ENGINEERING)
	PS:	REINHARD FURRER (DFVLR) (GERMAN)
	PS:	ERNST MESSERSCHMID (DFVLR) (GERMAN)
	PS:	WUBBO OCKELS (DFVLR) (DUTCH)

61-B	C:	BREWSTER H. SHAW, JR. (LT. COL., USAF)
LAUNCH: 26 NOV 1985	P:	BRYAN D. O'CONNOR (LT. COL., USMC)
LANDING: 03 DEC 1985	MS:	MARY L. CLEAVE (PhD - CIVIL ENGINEERING)
ATLANTIS	MS:	SHERWOOD C. SPRING (LT. COL., USA)
	MS:	JERRY L. ROSS (MAJ., USAF)
	PS:	RUDOLFO NERI VELA (MORELOS)
	PS:	CHARLES WALKER (McDONNELL DOUGLAS)
61-C	C:	ROBERT L. GIBSON (LT. CDR., USN)
LAUNCH: 18 DEC 1985	P:	CHARLES F. BOLDEN, JR. (MAJ., USMC)
LANDING: 23 DEC 1985	MS:	FRANKLIN R. CHANG-DIAZ (PhD - PLASMA PHYSICS)
COLUMBIA	MS:	STEVEN A. HAWLEY (PhD - ASTROPHYSICS)
	MS:	GEORGE D. NELSON (PhD - ASTRONOMY)
	PS:	ROBERT CENKER (RCA)
	PS:	BILL NELSON (U.S. CONGRESSMAN)
51-L	C:	FRANCIS R. SCOBEE (USAF, RET.)
LAUNCH: 22 JAN 1986	P:	MICHAEL J. SMITH (CDR., USN)
LANDING: 28 JAN 1986	MS:	JUDITH A. RESNIK (PhD - ELECTRICAL ENGINEERING)
CHALLENGER	MS:	ELLISON ONIZUKA (MAJ., USAF)
	MS:	RONALD E. MCNAIR (PhD - PHYSICS)
	PS:	GREGORY JARVIS (HUGHES)
	SFP:	CHRISTA McAULIFFE (TEACHER IN SPACE)
61-E	C:	JON A McBRIDE (CDR., USN)
LAUNCH: 06 MAR 1986	P:	RICHARD N. RICHARDS (LT. CDR., USN)
LANDING: 15 MAR 1986	MS:	ROBERT A. R. PARKER (PhD)
COLUMBIA	MS:	DAVID C. LEESTMA (LT. CDR., USN)
	MS:	JEFFREY A. HOFFMAN (PhD)
	PS:	SAMUEL T. DURRANCE (PhD - JOHN HOPKINS UNIVERSITY)
	PS:	RONALD A. PARISE (PhD - COMPUTER SCIENCES CORPORATION)
62-A	C:	ROBERT L. CRIPPEN (CAPT., USN)
LAUNCH: 20 MAR 1986	P:	GUY S. GARDNER (LT. COL., USAF)
LANDING:	MS:	DALE A. GARDNER (CDR., USN)
DISCOVERY	MS:	JERRY L. ROSS (MAJ., USAF)
	MS:	RICHARD M. MULLANE (LT. COL., USAF)
	PS:	EDWARD C. ALDRIDGE, JR. (U.S. AIR FORCE)
	PS:	BRET WATTERSON (U.S. AIR FORCE)

61-F	C:	FREDERICK H. HAUCK (CAPT., USN)
LAUNCH: 15 MAY 1986	P:	ROY D. BRIDGES (COL., USAF)
LANDING: 19 MAY 1986	MS:	DAVID C. HILMERS (MAJ., USMC)
CHALLENGER	MS:	JOHN M. LOUNGE (M.S. - ASTROPHYSICS)
61-G	C:	DAVID M. WALKER (CDR., USN)
LAUNCH: 20 MAY 1986	P:	RONALD J. GRABE (LT. COL., USAF)
LANDING: 24 MAY 1986	MS:	NORMAN E. THAGARD (M.D.)
ATLANTIS	MS:	JAMES D. VAN HOFTEN (PhD - FLUID MECHANICS)
61-H	C:	MICHAEL L. COATS (CDR., USN)
LAUNCH: 24 JUN 1986	P:	JOHN E. BLAHA (COL, USAF)
LANDING: 01 JUL 1986	MS:	ANNA L. FISHER (M.D.)
COLUMBIA	MS:	JAMES F. BUCHLI (LT. COL., USAF)
	MS:	ROBERT C. SPRINGER (LT. COL., USMC)
	PS:	PRATIWI SUDARMONO (INDONESIA)
	PS:	NIGEL WOOD (SQN. LDR. RAF - SKYNET)
61-M	C:	LOWEN J. SHRIVER (LT. COL., USAF)
LAUNCH: 22 JUL 1986	P:	BRYAN D. O'CONNOR (LT. COL., USAF)
LANDING: 27 JUL 1986	MS:	SALLY K. RIDE (PhD - PHYSICS)
CHALLENGER	MS:	WILLIAM F. FISHER (M.D.)
	MS:	MARK C. LEE (CAPT., USAF)
	PS:	ROBERT WOOD (McDONNELL DOUGLAS)
61-J	C:	JOHN W. YOUNG (USN, RET.)
LAUNCH: 18 AUG 1986	P:	CHARLES F. BOLDEN, JR. (MAJ., USMC)
LANDING: 23 AUG 1986	MS:	KATHRYN SULLIVAN (PhD - GEOLOGY)
ATLANTIS	MS:	STEVEN HAWLEY (PhD - ASTRONOMY/ASTROPHYSICS)
	MS:	BRUCE McCANDLESS (CDR., USN)
61-N	CREW ASSIGNMENT UNDER REVIEW	
LAUNCH: 04 SEP 1986		
LANDING:		
COLUMBIA		

61-I	C:	DONALD E. WILLIAMS (CDR., USN)
LAUNCH: 27 SEP 1986	P:	MICHAEL J. SMITH (CDR., USN)
LANDING: 01 OCT 1986	MS:	JAMES P. BAGIAN (M.D.)
CHALLENGER	MS:	BONNIE J. DUNBAR (PhD - BIOMEDICAL ENGINEERING)
	MS:	MANLEY L. "SONNY" CARTER (CDR., USN)
	PS:	INDIA PAYLOAD SPECIALIST
	SFP:	JOURNALIST IN SPACE PROJECT
62-B	CREW ASSIGNMENT UNDER REVIEW	
LAUNCH: 29 SEP 1986		
LANDING:		
DISCOVERY		
61-K	C:	VANCE D. BRAND (CIVILIAN)
LAUNCH: 27 OCT 1986	P:	S. DAVID GRIGGS (COL., USAF)
LANDING: 03 NOV 1986	MS:	ROBERT L. STEWART (MAJ., USA)
ATLANTIS	MS:	OWEN K. GARRIOTT (PhD - ELECTRICAL ENGINEERING)
	MS:	CLAUDE NICOLLIER, ESA (M.S. - PHYSICS)
	PS:	MICHAEL LAMPTON (PhD - U. C.-BERKELEY)
	PS:	BYRON K. LICHTENBERG (PhD - MIT)
61-L	CREW ASSIGNMENT UNDER REVIEW	
LAUNCH: 06 NOV 1986	PS:	JOHN H. KONRAD (HUGHES)
LANDING: 13 NOV 1986		
COLUMBIA		
71-B	CREW ASSIGNMENT UNDER REVIEW	
LAUNCH: 06 DEC 1986		
LANDING:		
CHALLENGER		
71-A	CREW ASSIGNMENT UNDER REVIEW	
LAUNCH: 12 JAN 1986	PS:	ASTRO-2 PAYLOAD SPECIALIST
LANDING: 19 JAN 1986	PS:	ASTRO-2 PAYLOAD SPECIALIST
ATLANTIS		

71-C
LAUNCH: 27 JAN 1987
LANDING: 03 FEB 1987
COLUMBIA

CREW ASSIGNMENT UNDER REVIEW
PS: PETER LONGHURST (SKYNET)
PS: ASC PAYLOAD SPECIALIST

71-D
LAUNCH: 16 FEB 1987
LANDING: 23 FEB 1987

CREW ASSIGNMENT UNDER REVIEW
PS: ROBERT WOOD (McDONNELL DOUGLAS)

11/21/85

PAYLOAD ACRONYM LIST

ACRONYM	NAME	DESCRIPTION
ACES	Acoustic Containerless Experiment System	technical demonstration to obtain early microgravity tests of gas transport phenomena in a 3-axis levitation furnace.
ACTS	Advanced Communication Technology Satellite	flight verification of high risk communications technology to support future communication systems.
ADSF	Automatic Directional Solidification Furnace	technology demonstration of directional solidification of magnetic materials, immiscibles, and IR detection materials.
AFE	American Flight Echocardiograph	collects quantitative in-flight data on cardiovascular changes in the crew.
ALE	Atmospheric Luminosity Experiment	investigates the ion chemistry of the atmosphere and orbiter surfaces.
APE	Aurora Photography Experiment	enhance understanding of the geographic extent and dynamics of the aurora.
ARABSAT	ARABSAT	communications satellite of the Arab Satellite Communications Organization.
ARC	Aggregation of Red Cells	studies aggregation of red cells and blood viscosity under low-g conditions.
ART	Amateur Radio Transceiver	establishes communication between radio operator on the Shuttle and operator on the ground.
ASC	American Satellite Company	provides commercial communication service via satellite to continental United States, Hawaii, Alaska, and Puerto Rico.

ASTRO	Ultraviolet Astronomy Telescope (formerly OSS-3)	three-mission program designed to obtain UV data on astronomical objects.
AUSSAT	Australian Communication Satellite	direct broadcast communication satellite which provides services to continental Australia and off-shore territories.
BIOS	Biostack Middeck Experiment	Study of damage to biological materials resulting from the HZE component of cosmic rays.
BRE	Blood Rheology Experiment	technology demonstration of this apparatus to study aggregation of red blood cells and blood viscosity under low-g conditions.
C2-SPACELINES	Commercial Cargo Spacelines	performs launch and other required services for C2 mixed cargo.
C-360	Cinema-360	35mm motion picture camera for the purpose of photographing crew and mission activities.
CANEX	Canadian Payload Specialist Experiment	experiment package flown with Canadian payload specialists on mission 41-G.
CBDE	Carbonated Beverage Dispenser Evaluation	Pepsico, Inc. experiment to evaluate packaging and dispensing techniques for space flight consumption of carbonated beverages.
CBSC	China Broadcasting Satellite	television and sound broadcasting satellite.
CENTAUR	Centaur	General Dynamics hydrogen/oxygen upper stage.
CFES	Continuous Flow Electrophoresis System	demonstrates the technology of pharmaceutical processing in space.
CFMF	Cryogenic Fluid Management Facility	re-usable research facility to establish technology base for 0-g cryogenic fluid management system.

CHAMP	Comet Halley Active Monitoring Program	observe Comet Halley on approximately six STS flights from October 1985 through April 1986.
CLOUDS	Structures Photography Experiments	cloud formation, dissipation and opaqueness observations.
COBE	Cosmic Background Explorer	study the diffuse radiation of the universe.
CPL	Capillary Pump Loop Explorer	determine 0-g performance of a capillary pump loop heat acquisition system.
CRRES	Combined Release and Radiation Effects Satellite	study the upper atmosphere and ionosphere by releasing trace metal vapors.
CST	Contrast Sensitivity Tester	
DARK SKY		conducts sky survey for extended infrared sources, X-ray imaging of galaxy clusters and makes cosmic ray measurements.
DBS	Direct Broadcast Satellite	
DBS LUX		Radio-Tele-Luxembourg direct broadcast satellite.
DMOS	Diffusive Mixing of Organic Solutions	grow crystals of organic compounds for research programs within the 3M Corporation's Science Research Laboratory.
DOD	Department of Defense	
DOD-PATIE	Department of Defense-Pointing and Tracking Integrated Experiment	acquire rapidly moving instrumented targets in space or fixed targets on the ground and the ability to do high precision pointing and tracking with a low power marker laser

EASE/ACCESS	Experimental Assembly of Structures in EVA/Assembly Concept for Construction of Erectable Space Structures	measures the human factors while assembling structures in space during EVA.
EEVT	Electrophoresis Equipment Verification Test	technology demonstration of apparatus to evaluate the effects of electrophoresis of biological cells in 0-g.
ELRAD	Earth-Limb Radiance Experiment	obtain measurements of earth-limb radiance for various positions of the sun from near limb up to 9 degrees below earth horizon.
EML	Electromagnetic Levitation Payload	technology demonstration to observe the flow of the surface of a containerless molten metal.
EOIM-III	Evaluation of Oxygen Interaction with Materials-III	expand and verify Space Space Station environmental interaction data base to support materials development and systems design.
EOM	Environmental Observation Mission	measure long term variability in the total energy radiated by the sun and determine the variability in the solar spectrum.
EOS	Electrophoresis Operation in Space	produce pharmaceuticals for large scale tests leading to FDA approval and commercial production.
ERBS	Earth Radiation Budget Satellite	collects global earth radiation budget data.
EURECA	Europe Retrievable Carrier	platform placed in orbit for six months offering conventional services to experimenters.
EUVE	Extreme Ultraviolet Experiment	survey the sky in the EUV band (100 - 1,000 angstrom).

FDE	Fluid Dynamics Experiment	
FEE (formerly ECHO)	French Echocardiograph Equipment	obtains on-orbit cardiovascular system data.
FASSC		Ford Aerospace Satellite Services Corporation communication satellite.
FPE	French Postural Experiment	studies sensory-motor adaptations in weightlessness.
FTDI	Fluid Transfer Dynamic Investigation	evaluates fluid dynamics associated with filling capillary/screen retention propellant tanks.
GALAXY-KU	GALAXY-KU Band	Hughes domestic and commercial communication satellite.
GALILEO	GALILEO	investigates the chemical compostion and physical state of Jupiter's atmosphere and satellites.
GARD	Gamma Radiation Detection	measures gamma radiation levels in the Shuttle environment.
GAS	Get Away Special	small self-contained payload containers providing conventional support to experiments.
GAS BRIDGE	Get Away Special Bridge	structure in the payload bay that can hold up to twelve GAS canisters.
GLOW	GLOW	atmospheric luminosities investigation.
GLOMR	Global Low Orbit Message Relay	packet data relay satellite.
GOES	Geostationary Operational Environmental Satellite	provides continuous weather coverage of the western hemisphere.
GPS	Global Positioning System	DOD navigation and positioning system.
GRO	Gamma Ray Observatory	investigate extraterrestrial gamma-ray sources.

GSTAR	GSTAR	GTE (General Telephone and Electronics Satellite Corp.) communications satellite.
HBT	Heflex Bioengineering Test	determines proper soil moisture content for maximum growth in 0-g.
HH-G	Hitchhiker (Goddard Space Flight Center version)	GSFC payload carrier for intermediate size experiments attached to the sill of the cargo bay.
HH-M	Hitchhiker (Marshall Space Flight Center version)	MSFC payload carrier for intermediate size experiments attached in the shuttle bay.
HNC	Heavy Nuclei Collector	obtains a sample of actinide nuclei (thorium, uranium, etc.) in cosmic radiation.
HPCG	Handheld Protein Crystal Growth Middeck Experiment	develop techniques to produce in low-G protein crystals of sufficient size and quality to permit molecular analysis by diffraction techniques.
HPTE	High Precision Tracking Experiment	demonstrates ability to propagate a low power laser beam through the atmosphere.
HST	Hubble Space Telescope	observes the universe to gain information about its origin, evolution and disposition of stars, galaxies, etc.
IBSE	Initial Blood Storage Equipment	evaluates changes in blood tissue during various storage conditions.
IEF	Isoelectric Focussing Experiment	gather experimental data on the extent of electro-osmosis in space.
IMAX	Imax, Inc. of Toronto, Ontario, Canada	produces motion pictures of orbiter launch, inflight operations and landings suitable for viewing in IMAX theaters such as the Smithsonian.

IML	International Microgravity Laboratory	microgravity missions devoted to material sciences and life sciences studies.
INSAT	Indian National Satellite System	communication and meteorological satellite.
INTELSAT	International Telecommunications Satellite	international telecommunications satellite network.
IOCM	Interim Operational Contamination Monitor	measures molecular and particle contamination in the Shuttle bay.
IRAS	Infrared Astronomical Satellite	infrared telescope.
IR-IE		infrared video camera used to measure temperature gradients on the orbiter surface.
IRIS	Italian Research Interim Stage	an expendable vehicle capable of placing payloads up to 950 kg into geosynchronous transfer orbit.
IRT	Integrated Rendezvous Radar Target	a target for testing of Shuttle orbiter rendezvous techniques and capabilities in orbit.
ISAL	Investigation of STS Atmospheric Luminosities	determine the spectral content of the orbital luminosity.
ISTP	International Solar Terrestrial Program	performs optical and in-site measurements on the outer atmosphere of the sun, the solar interior, the corona and the solar wind.
ITALSAT	Italian Communication Satellite System	satellite housing telecommunication and propagation experiments.
IUS	Inertial Upper Stage	solid rocket booster developed to place satellites in high orbits.

LAGEOS	Laser Geodynamics Satellite	high precision geographical measurements.
LANDSAT		earth resources monitoring satellite.
LDEF	Long Duration Exposure Facility	free-flying satellites providing accommodations for experiments requiring long-duration exposure to the space environment.
LDEF RETR	Long Duration Exposure Facility Retrieval	retrieve and return the LDEF to earth so results may be analyzed.
LEASECRAFT	Leasecraft	Fairchild modular utility satellite - a shuttle-serviced, low-orbiting space platform for lease.
LFC	Large Format Camera	acquire synoptic, high-resolution images of the Earth's surface.
LM	Long Module	Spacelab element composed of a core segment and an experiment segment.
LS-D	Landsat Repair (Landsat D)	rendezvous, capture, repair, and deploy a Landsat D spacecraft using the STS.
MARC-DN	Measurement of Atmospheric Radiance Camera-Day/Night	test fly TV camera against celestial, earthlimb and ground targets with various lighting conditions.
MARS OBSERVER		return scientific data from Mars orbit.
MAST	Structural Technology Demonstration	demonstrate structural integrity through deployment, retraction and restowage, and develop techniques for distributed control and adaptive control methods.
MEA	Materials Equipment Assembly	conducts materials processing experiments in low-g environment.
MLR	Monodisperse Latex Reactor	produces monodisperse latex particles in the two to forty micron range.

MORELOS	MORELOS	Mexican communication satellite system.
MPESS	Mission Peculiar Experiment Support Structure	experiment carrier.
MPSE		experiment in support of the MORELOS payload specialist.
MSAT	Mobile Satellite	provides channel capacity for NASA technology validation experiments and accelerates introduction of commercial mobile satellite service in the U.S.
MSL	Materials Science Laboratory	performs materials processing experiments in low-g.
NOAA	National Oceanic and Atmospheric Administration	provides continuation of Polar Operational Meteorological Satellite System for the Department of Commerce (NOAA).
NOSL	Night/Day Optical Survey of Lightning	optical survey of lightning.
OASIS	OEX (orbiter experiments) Autonomous Supporting Instrumentation System	independent system that can be flown with a payload to acquire and store environment data.
OAST	Office of Aeronautics and and Space Technology	demonstration of a large light-weight solar array which is capable of being restowed in flight.
OIM	Oxygen Interaction with Materials	
OMV	Orbital Maneuvering Vehicle	supplements the STS capability for satellite payload delivery, retrieval and maneuvering.

OPEN	Origin of Plasmas in Earth's Neighborhood	obtain the first quantitative assessment of the flow of energy through the geospace environment.
ORION	Orion	Orion Satellite Corporation communications satellite.
ORS	Orbiter Refueling System	demonstrates STS's ability to perform on-orbit satellite refueling.
OSS-2 OXS	Office of Space Science Diffuse X-Ray Spectrometer	conducts x-ray observations on a variety of objects in the 44 to 84 angstrom wavelength region.
OSS-3	Office of Space Science (currently ASTRO)	obtain UV data on astronomical objects.
OSTA-2	Office of Space and Terrestrial Applications	cooperative mission with the Federal Republic of Germany on materials processing experiments in low-gravity.
OSTA-3/5/7	Office of Space and Terrestrial Applications	acquire photographic and radar images of the Earth's surface.
PALAPA	Indonesian Communication Satellite	synchronous satellite communication system for the Republic of Indonesia.
PAM-A	Payload Assist Module A	upper stage designed to deliver up to 4400 lbs to a geosynchronous transfer orbit.
PAM-D	Payload Assist Module D	upper stage designed to deliver up to 2850 lbs to a geosynchronous transfer orbit.
PAM-D II	Payload Assist Module D II	McDonnell Douglas upper stage designed to deliver up to 4160 lbs to a geosynchronous transfer orbit.
PDRS/PFTA	Payload Deployment and Retrieval System/Payload Flight Test Article	first object to be deployed and retrieved by the remote manipulator system and is used to test reaction of RMS joints.

PPE	Phase Partitioning Experiment	study separation behavior of two phase systems generated by the mixture in water of polyglucose and polyethylene glycol.
PVTOS	Physical Vapor Transport of Organic Solids	grow crystaline films on selected substrates of organic solids.
RADARSAT	RADARSAT	collaborative program designed to remotely monitor the oceans, ice and land over a five year period.
RCA DBS	RCA Direct Broadcasting System	satellite system for Radio Corporation of America.
RME	Radiation Monitoring Equipment (formerly Space Radiation Test)	measures gamma radiation levels in the Shuttle environment.
ROSAT	Roentgensatellit	conducts an all-sky survey.
SAS	Space Adaptation Syndrom	measures vestibular function, motion sickness susceptibility and spatial orientation ability during prolonged weightlessness.
SAREX	Shuttle Amateur Radio Experiment	space to ground voice and slow scan TV.
SATCOL		Colombian communications satellite.
SATCOM		RCA communications satellite.
SAX	X-Ray Astronomy Satellite	scientific study of celestial x-ray sources.
SBS	Satellite Business Systems	all digital domestic communication system servicing large industry, the government, etc.
SBTS-A4		Brazilian telecommunications satellite system.

SEMS	Shuttle Environment Monitoring System	measures Space Shuttle cargo bay environment under launch, flight, and landing conditions.
SFPP	Space Flight Participant Program	
SHARE (formerly TEMPS-III-A)	Large, High Capacity Heat Pipe Radiator	evaluate on-orbit thermal performance of a heat pipe radiator element designed for Space Station heat rejection system application.
SHEAL	Shuttle High Energy Astrophysics Laboratory	study of astronomical objects, obtaining images, spectra and timing data on celestial x-ray sources.
SIRTF	Shuttle Infrared Telescope Facility	facility which hosts experiments that increase our understanding of the formation and evolution of stars, planets, galaxies, and unusual galactic objects.
SKYNET	United Kingdom Communication Satellite	military communication satellite.
SL 1	Spacelab 1	demonstrate Spacelab's capabilities for multidisciplinary research.
SL 2	Spacelab 2	demonstrate Spacelab's capabilities for multidisciplinary research and verify system performance.
SL 3	Spacelab 3	dedicated materials processing mission emphasizing 0-g research.
SLS-1	Space Life Sciences Laboratory 1	investigate the effects of weightlessness exposure using both man and animal specimans.
SLS-2	Space Life Sciences Laboratory 2	reflight of SLS-1.
SLS-3	Space Life Sciences Laboratory 3	exploration of the effects of acute weightlessness on living systems.

SLS-4	Space Life Sciences Laboratory 3	generic life sciences laboratory mission.
SMRM	Solar Maximum Repair Mission	conducts a technology demonstration of the STS capability to rendezvous, service, checkout and deploy.
SOT	Solar Optical Telescope	performs very high spatial resolution observations of the sun.
SPACELAB D-1	German Spacelab Mission D-1	first dedicated DFVLR mission (Deutche Forschungs-und Versuchsanstalt fur Luftund Raumfahrt e.V.).
SPACELAB D-2	German Spacelab Mission D-2	dedicated application and technology science mission.
SPACELAB D-4	German Spacelab Mission D-4	GIRL - German Infrared Radiation Laboratory.
SPACELAB J	Japanese Spacelab Mission	microgravity mission with emphasis on materials processing and life science experiments.
SPACENET	Southern Pacific Satellite Company Communications Satellite	a 3-axis stabilized telecommunication satellite used to provide domestic/commercial common carrier.
SPARTAN- 1	Spartan	x-ray astronomy, medium energy survey mission.
SPARTAN- 2	Spartan	study of solar physics.
SPARTAN- 3	Spartan	ultra violet imaging of a variety of sources.
SPARTAN-HALLEY		search for molecules containing nitrogen, carbon or sulfur and observes the UV spectrum between 2100 and 3400A..
SPARTAN 204		obtains simultaneous measurements of the absolute solar flux, the solar spectral content, the solar helium line shape and band width, and the interplanetary hydrogen and helium glow.

SPARTAN 205		obtains high resolution EUV solar spectra in two dimensions and maps absolute systematic velocities on the sun's disc.
SPARTAN 206		studies high energy physics (broad band x-ray imaging spectrometer).
SPARTAN 207		studies astronomical criteria below 2000 angstrom using the Interstellar Medium Absorption Profile Spectrograph (IMAPS).
SPARTAN 208		measures the sulfur dioxide in the atmosphere of Venus; repeats measurement in 1988 and 1990.
SPARTAN 209		studies cosmic x-ray spectra from selected celestial sources.
SPARTAN 210		study the physical conditions in coronal loops and the fine structure and dynamics of the magnetic field.
SPARTAN 211		studies spectra of faint extended emission-line objects in the wavelength range between 900 and 1150 angstrom.
SPAS-01	German Shuttle Pallet Satellite	demonstrates the utilization of the MBB platform and systems as a carrier for science experiments.
SP PLASMA	Space Plasma Laboratory	
SRL	Space Radar Laboratory	aquires photographic and radar images of the Earth's land and oceanic surfaces.
SRT	Space Radiation Test (now RME)	measure gamma radiation levels in the Shuttle environment.
SSBUV	Shuttle Solar Backscatter Ultra-Violet Instrument	measures ozone characteristics of the atmosphere.

SSC	Solid Surface Combustion	determine flame spread mechanisms and rates over solid surfaces in the absence of gravity-induced free convection and externally imposed flow.
SSIP	Shuttle Student Involvement Projects	student projects flown on Shuttle.
STC DBS	Satellite Television Corp. Direct Broadcast Satellite	direct broadcast satellite subscription TV.
STTP	Life Sciences Space Technology Training Program	develop and encourage interest on the part of college students in space biology and medicine.
SUNLAB	Spacelab 2 Solar Telescope	study small-scale structures on the Sun's surface and measure the coronal helium abundance.
SYNCOM	Hughes Geosynchronous Communication Satellite	provides communication services from geosynchronous orbit principally to the US government.
SYNCOM-SALVAGE		salvage of Syncom IV-3 launched on STS 51-D.
TDRS	Tracking and Data Relay Satellite	NASA Communication Satellite.
TELESAT	Canadian Telecommunication Satellite	communication satellite built by Telesat Canada, LTD. to provide voice and TV coverage to trans-Canada network of Earth stations.
TELSTAR	AT & T Communications Satellite	AT & T COMSTAR replacement - provides communication services to the continental US, Alaska, Hawaii, and Puerto Rico.
TEMPS-III-A	Large, High Capacity Heat Pipe Radiator	evaluate on-orbit thermal performance of a heat pipe radiator element designed for Space Station heat rejection system application.
TIS	Teacher in Space	middeck locker supporting the Space Flight Participant Program's teacher in space.

TLD	Thermoluminescent Dosimeter	obtains gamma ray measurements of the Shuttle environment.
TOPEX	Ocean Topography Experiment	remotely sense the global oceans.
TSS	Tethered Satellite System	demonstrate system capabilities by deploying and retrieving tethered satellite and measuring engineering data from payload on satellite.
UARS	Upper Atmospheric Research Satellite	study the physical processes acting within and upon the stratosphere, mesosphere and lower thermosphere.
ULYSSES	formerly ISPM (International Solar Polar Mission)	investigates the properties of the heliosphere (sun and its environment.
UNISAT (USL)	United Satellite, LTD.	British communications satellite which provides direct broadcast TV services to the BBC and the ITA.
USAT	United States Satellite Corporation	domestic communication satellite system.
USSB	US Satellite Broadcast System	provides direct to home radio and TV broadcasting.
UVAM	Ultraviolet Astronomy Mission	
UVX	Ultraviolet Experiment	measures the galactic and extragalactic contribution to the diffuse ultraviolet background radiation in the 600 - 3200 angstrom region.
VRM	Venus Radar Mapper	globally map the surface of Venus.
WESTAR	Western Union Telegraph Communication Satellite	a c-band satellite to replenish and expand the Westar system (Western Union domestic communication system).

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